

# The HAI Hub

A Quarterly Publication by the Patient Safety Program &  
Healthcare-Associated Infections (HAI) Epidemiology Team

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## Spotlight: IP Champions—Sue Halverson & Aaron Williams

### **When not fighting infections in hospitals, what do you enjoy doing most?**

-Sue: "Be in nature, hiking, biking, kayaking, gardening, and I love to cook." Sue's specialty is Italian food. She says the key for any Italian dish is the sauce, which she calls "gravy" and notes, "the key to good gravy is red wine."

-Aaron: "Sleeping! But more so, spending time with my wife and 2-year-old baby girl. Watching my daughter's eyes light up with new experiences is the best." Aaron also likes to hike and is a certified diver. His last dive trip was Key West and he hopes the next is Turks and Caicos.

### **What words of wisdom would you pass on to the Infection Prevention community?**

-Sue: "Be resilient. Increased demands, workload and constant changes in mandatory reporting make it hard to be on the floor and visible in our hospitals. I also want to tell Infection Preventionists (IPs) to always be proud of the work you do. We work in an area that doesn't generate revenue, yet it's critical and serves an enormous need in the community."

-Aaron: "We must be like weeping willows; strong but flexible; deep roots and blowing with the wind, because there's lots of wind." He explains that IPs are expected to be experts in diverse topics and be prepared to back up recommendations with scientific evidence why certain practices are best for patients and staff. Aaron adds, "We go through much hardship. We don't get recognition for saving and changing lives. We're in a deep, dark trench in a major battlefield. Be proud!"

### **During your time in Infection Prevention, what has been your most rewarding experience?**

-Sue: "Seeing results! It's rewarding to see the changes we make actually work to improve hand hygiene and other IP practices and see decreasing infections."

-Aaron: "It's not one thing. Seeing positive changes reflected in the culture and in our data is tremendously rewarding. We are human, have doubts and are fallible, so when peers review your work and validate your decisions and actions, that's rewarding."

### **What do you wish senior leadership knew about Infection Prevention?**

-Sue: "What we do. For many IPs, their administration does not know what they do." Sue mentions the sheer amount of effort invested in reports they submit to management. "It's hard to explain how intense a chart review to identify an infection can be." She explains that since IPs don't generate revenue, their work is not as visible. She is hopeful that the CMS rulings improve this.

-Aaron: "What we do, how much we're responsible for, how few of us there are....to walk in our shoes."

### **-What's your favorite or least favorite pathogen and why?**

-Aaron and Sue agree: Norovirus (NV). Aaron says, "It's very infectious and easily spread. Most hospitalists and ED docs don't consider NV first; they consider *Clostridium difficile* (*C. difficile*) first. If it's not *C. difficile*, they stop looking and don't consider NV. NV is endemic in Denver metro long term care and assisted living facilities. It's not going away and folks forget about it. Most on-site labs do not test for NV so it's sent out, and when results come back, the patient is often already discharged." They also agree that extended-spectrum beta-lactamase (ESBLs), coming in from the community, are scary. At St. Joseph Hospital, *E. coli* ESBLs have tripled in the last four years.

### **What else should we know about your journey in IP?**

-Aaron and Sue's mutual respect is evident and they acknowledge their excellent working relationship. Aaron says, "Sue's and my backgrounds balance each other. We each bring different expertise and strengths and bounce questions off each other. We are fortunate. Everything happens for a reason and I was guided here for a reason. When Sue and I met in St. Louis, she said, "you know, we're going to work together someday" and five years later, here we are."



Sue, originally from New York, has been an RN for 27 years. She spent 11 years in post-anesthesia care, six years in gastrointestinal, and four years in telemetry. Sue always was interested and involved in infection prevention and when she moved to CO five years ago, looking for a career change, infection prevention was a natural transition. The first thing she did was join the Association for Professionals in Infection Control and Epidemiology (APIC) Mile High chapter and then attended Epi 101 in St. Louis, where she met Aaron Williams. Sue has been an IP at St. Joseph Hospital for 3.5 years. In 10 years, Sue hopes to be taking in the sun in New Mexico.

Aaron was a lab microbiologist in the army for eight years and at University Hospital for another seven years. He transitioned to infection prevention in 2005 and worked as an IP at Swedish, Rose and Parker Hospitals before joining St. Joseph in 2010. Aaron says as an IP, he's never been more challenged. "The challenges are rewarding and heartbreaking. Being an IP is an emotional roller coaster. You never know what to expect day to day. I love it and will be doing this for another 20 years."

**Do you know an IP Champion? Please nominate that individual for the summer edition of The HAI Hub. Send the nominees name, place of employment, a brief explanation of the qualities this IP embodies and why he/she should be your next IP Champion to Juan Suazo at: Juan.Suazo@dphe.state.co.us.**

## CDPHE Social Media

Want to stay updated on the state health department's activities and news? "Like" us on Facebook and follow us on Twitter to learn about new public health reports, reminders about upcoming events, and recommendations for preventing infections in the community.

Also, see how the department works to improve the health of Colorado residents and help the public access our services. Collaborate with CDPHE to engage and inform our audiences through prompt discussion about the department's and our partners' events, news and variety of work.

Join in the conversation!



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## Group A Strep in Long Term Care Facilities

Frequently asked questions and guidelines for infection control measures for invasive group A *Streptococcus* (GAS) infections in patients residing in long-term care facilities (LTCF) are available at: <http://www.cdphe.state.co.us/hf/protocols/GAS.pdf>.

A single case of invasive GAS disease in a LTCF can indicate unrecognized GAS transmission among LTCF staff members and residents and should be investigated as per the guidelines above. The Communicable Disease Epidemiology Program conducts surveillance of invasive GAS disease (positive culture from a normally sterile site) in the five-county Denver metropolitan area and provides guidance to LTCFs that are found to have invasive GAS cases. These guidelines are applicable to LTCFs statewide, and CDPHE consultation is available as needed. Please contact the Communicable Disease Epidemiology Program at 303-692-2700 with any questions.

## Did you know...

*Enterobacteriaceae* is a large family of Gram-negative rods that includes many bacterial genera, including *Escherichia*, *Klebsiella*, *Proteus*, *Enterobacter*, and *Serratia* species, as well as other bacteria that cause foodborne disease, healthcare-associated infections (HAIs), and other types of infections.

The carbapenem class of antibiotics includes imipenem, meropenem, ertapenem and doripenem. These antibiotics often are used as the last line of treatment for infections caused by resistant Gram-negative bacteria. Of great concern to clinicians and public health, increasing numbers of *Enterobacteriaceae* resistance to this important class of antibiotics (carbapenem-resistant *Enterobacteriaceae* [CRE]) is being detected. Although most infections with CRE occur within the health care setting, community-associated CRE infections are possible, particularly since *Enterobacteriaceae* are a normal part of human gastrointestinal flora.

CRE organisms are associated with high mortality, 38 percent in one study.<sup>1</sup> Very few treatment options exist for infections with CRE. CRE is transmitted from patient to patient through the hands of health care workers, contact with the environment, and contaminated medical equipment. In addition to infection control measures, antimicrobial stewardship plays an important role in prevention of CRE.

Carbapenem-resistance in *Enterobacteriaceae* can occur by several mechanisms, including the production of carbapenemases, such as metallo-beta-lactamases ([MBL], e.g. NDM [New Delhi MBL]) and KPC (*Klebsiella pneumoniae* carbapenemase). KPC-producing organisms remain the most common CRE in the United States. In 2009, NDM was first described in a Swedish patient who received care in India.<sup>2</sup> Many cases of NDM reported in the United States and parts of Europe have received previous medical care in India and Pakistan.

All types of CRE are an important public health problem, regardless of their mechanism of resistance or their country of origin. The presence of CRE reinforces the need for better antibiotic stewardship, transmission prevention and overall HAI prevention in any healthcare setting. KPC producers have been reported in 37 states; they may be present in other states as well, but have not been reported to CDC (Fig. 1). NDM-producing isolates have been identified in California, Illinois, Maryland, Massachusetts, Virginia, and most recently, Minnesota. A few states, including Minnesota, have made CRE a reportable condition to track this emerging infection.

Further guidance from CDC on the control of CRE is available at <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5810a4.htm>.<sup>3</sup>

<sup>1</sup>Patel G, Huprikar S, Factor SH. Outcomes of carbapenem-resistant *Klebsiella pneumoniae* infection and the impact of antimicrobial and adjunctive therapies. *Infect Cont Hosp Epidemiol* 2008;29:1099-106.

<sup>2</sup>Yong D, Toleman MA, Giske CG, et al. Characterization of a new metallo-β-lactamase gene, bla<sub>NDM-1</sub>, and a novel erythromycin esterase gene carried on a unique genetic structure in *Klebsiella pneumoniae* sequence type 14 from India. *Antimicrob Agents Chemother* 2009;53:5046-54.

<sup>3</sup>CDC. Guidance for control of infections with carbapenem-resistant or carbapenemase-producing *Enterobacteriaceae* in acute care facilities. *MMWR* 2009;58:256-60.

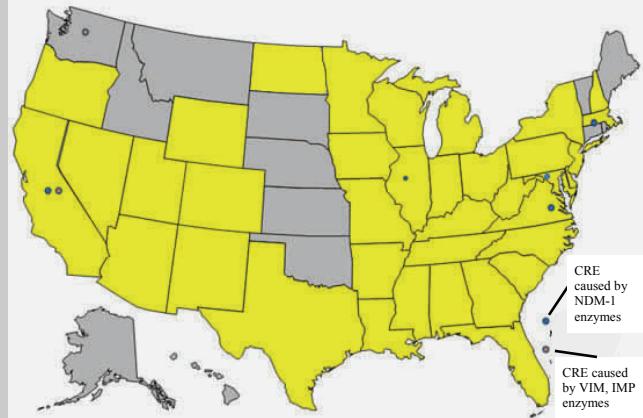


Fig. 1: 2011 Location of Carbapenem-Resistant *Enterobacteriaceae* (CRE) caused by KPC enzyme; CRE caused by other enzymes noted (CDC).

## HAI Word Search

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| Word List  |   | Program Updates   |   | NHSN Case Study   |  |
|--|---|---|---|---|--|
| <b>Antibiotic Resistance Audit</b><br><b>Catheterizaton Cleaning</b><br><b>Clostridium difficile Cohort</b><br><b>Colonization Compliance</b><br><b>Decontamination Disinfection</b><br><b>Endogenous Epidemiologist</b><br><b>Exogenous</b>   | <b>Gastroenteritis Hand Hygiene Infection</b><br><b>Intravascular Isolation</b><br><b>Nosocomial Organism Pathogens</b><br><b>Patient Safety Prevalence</b><br><b>Sterilization Surveillance Susceptible Transmission Virus</b> | <p>All National Healthcare Safety Network (NHSN) manuals have been updated as of January, with the exception of dialysis, which was updated in February.</p> <ul style="list-style-type: none"> <li>◆ For the latest NHSN manuals, refer to:<br/><a href="http://www.cdc.gov/nhsn/TOC_PSCManual.html">http://www.cdc.gov/nhsn/TOC_PSCManual.html</a></li> </ul> <p>The Patient Safety Program released the “State of Colorado Status Report on the Health Facility-Acquired Infections Disclosure Initiative” on January 13.</p> <ul style="list-style-type: none"> <li>◆ To view the report online refer to:<br/><a href="http://www.cdphe.state.co.us/hf/patientsafety/HFAI/2012HAIAnnualReport.pdf">http://www.cdphe.state.co.us/hf/patientsafety/HFAI/2012HAIAnnualReport.pdf</a></li> </ul> <p>The next set of NHSN trainings will occur on:</p> <ul style="list-style-type: none"> <li>◆ <b>Tuesday April 17: Central Line Associated Blood Stream Infections</b></li> <li>◆ <b>Wednesday April 18: Surgical Site Infections</b></li> <li>◆ <b>Wednesday April 25: Data analysis</b></li> <li>◆ <b>Thursday April 26: Dialysis</b></li> </ul> | <p>Training will take place via webinar and in person at the department. Times will be sent out soon via email. To reserve a slot, please contact the Patient Safety Program.</p> | <p>Case Study: Patient with knee arthroplasty (KPRO) surgery in January falls down in August opening his knee. An infection subsequently develops. Is this reportable?</p> <p>Per NHSN:<br/>If the wound was intact with no signs of infection when the patient was discharged, our guidance has been the following:</p> <p>Once a patient is discharged from the index hospital, if the incision opens due to fall and there was no evidence of incisional infection at the time of its opening (as defined by lack of symptoms that make up the surgical site infection SSI definition), then subsequent infection of the incision is not considered an SSI or an HAI for the index hospital. This implies a mechanical reason for dehiscence rather than an infectious reason.</p> |  |
| <p>The first person to correctly submit the word search puzzle will receive a pre-purchased microbe from giantmicrobes.com!!!!</p> <p>Please scan or fax submissions to Juan Suazo at juan.suazo@dphe.state.co.us; 303-753-6214</p> <p><b>Congratulations to Aaron Williams for winning the Winter HAI Hub crossword puzzle contest!</b></p> |   |   |   |   |  |

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| <b>Patient Safety Program HFEMSD-A2</b><br>4300 Cherry Creek Drive South<br>Denver, Colorado 80246<br>(303) 692-2800<br><a href="http://www.cdphe.state.co.us/hf/patientsafety/index.html">http://www.cdphe.state.co.us/hf/patientsafety/index.html</a> | <b>Sara Reese, PhD</b><br><b>Patient Safety Program Coordinator</b><br><b>Sara.Reese@state.co.us</b><br>(303) 692-2929 | <b>Communicable Disease Epidemiology Program DCEED-EPI-A3</b><br>4300 Cherry Creek Drive South<br>Denver, Colorado 80246<br>(303) 692-2700<br><a href="http://www.cdphe.state.co.us/dc/Epidemiology/dc_guide.html">http://www.cdphe.state.co.us/dc/Epidemiology/dc_guide.html</a> | <b>Wendy Bamberg, MD</b><br><b>Medical Epidemiologist for Healthcare-Associated Infections</b><br><b>Wendy.Bamberg@state.co.us</b><br>(303) 692-2491 |
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